DOCUMENT RESUME

ED 364 025 EC 302 595

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TITLE Systems of Care for Children and Adolescents with Severe Emotional Disturbances: What Are the Results?

INSTITUTION Georgetown Univ. Child Development Center, Washington, DC. CASSP Technical Assistance Center.

SPONS AGENCY Substance Abuse and Mental Health Services Administration (DHHS/PHS), Rockville, MD. Center for Mental Health Services.

PUB DATE Sep 93

NOTE 42p.

AVAILABLE FROM Georgetown University Child Development Center, CG-53 Bles Building, 3800 Reservoir Road, N.W., Washington, DC 20007 ($5).

PUB TYPE Reports - Descriptive (141) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Adolescents; *Agency Cooperation; Children; *Community Programs; Cost Effectiveness; *Delivery Systems; *Emotional Disturbances; Intervention; Mental Disorders; *Outcomes of Treatment; Placement; Services; Social Integration; Social Services; Systems Approach

ABSTRACT

This monograph explains the community-based systems of care approach to providing services for children and youth with emotional disorders and reviews data from 30 communities suggesting that children served in systems of care are less likely to receive services in restrictive environments or to be placed out of their homes, counties, and states. Preliminary information reviews the development of the systems of care approach, which emphasizes comprehensive and individualized services provided within the least restrictive environment with full participation of families and coordination among agencies and programs. Next, major goals of system development across various communities are identified and information on target population criteria and priorities is provided, noting that the largest percentage of children served at most sites is in the disruptive disorders category. A section on the array of services provided notes the expansion of "intermediate" services and use of case management approaches. Specific outcome indicators used in the review of the 30 community programs are then reported, including: out-of-home and community placements, utilization of restrictive service options, functional improvements, educational status, law enforcement status, family involvement, satisfaction with services, access to services, and cost comparisons. An appendix provides specific outcome data by community. (Contains 43 references.) (DB)

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SYSTEMS OF CARE

for Children and Adolescents with Severe Emotional Disturbances:

WHAT ARE THE RESULTS?

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Beth A. Stroul, M.Ed.

CASSP Technical Assistance Center
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SYSTEMS OF CARE FOR CHILDREN AND ADOLESCENTS WITH SEVERE EMOTIONAL DISTURBANCES: WHAT ARE THE RESULTS?

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Center for Mental Health Services
Substance Abuse and Mental Health Services Administration

September 1993

Printed on Recycled Paper

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SYSTEMS OF CARE FOR CHILDREN AND ADOLESCENTS WITH SEVERE EMOTIONAL DISTURBANCES: WHAT ARE THE RESULTS?

INTRODUCTION

The development of comprehensive, community-based systems of care for children and adolescents with emotional disorders and their families has become a national goal. These systems of care are based upon an explicit philosophy that emphasizes services which are family focused, individualized, provided in the least restrictive environment, coordinated among multiple agencies, and culturally competent. In recent years, there has been an explosion of activity related to system of care development, and an increasing number of communities have made substantial progress toward the development of community-based systems of care for this population. The new federal Child Mental Health Services Initiative holds the promise of federal resources to support the continued development of systems of care.

The rapid acceptance of the system of care concept and philosophy and the rapid growth of systems of care across the nation underscore the importance of documenting the experience and results of the evolving service delivery systems. Since systems of care are recent innovations, evaluation and research efforts to assess these systems are at early stages of development. However, evidence is emerging from research as well as from evaluation activities which increasingly points to the efficacy of the system of care approach. This project was designed to collect and analyze available information on the outcomes of systems of care.

A number of indicators have been identified to assess the impact of systems of care, and information relative to these indicators was gathered from a sample of approximately 30 communities in which there have been demonstrable efforts to create comprehensive, coordinated, community-based systems. The sample of communities included sites funded by the Robert Wood Johnson Foundation to develop systems of care, sites included in a recently completed descriptive study of local systems of care (Stroul, Goldman, Lourie, Katz-Leavy, & Zeigler-Dendy, 1992), and several additional communities identified by their respective state mental health agencies as having well-developed systems of care. Analysis of these data reveals a number of trends suggesting that children served in systems of care are less likely to receive services in restrictive environments and are less likely to be placed out of their homes, counties, and states. Further, the data suggest that children served in such systems demonstrate improvements in functioning, that parents are more satisfied with services and supports, and that the costs of providing systems of care are less than for traditional service delivery patterns which rely more heavily on expensive treatment environments.

I. THE DEVELOPMENT OF SYSTEMS OF CARE

The most recent epidemiological estimates suggest that approximately 14 to 20 percent of all children from birth to age 18 have some type of mental health disorder, and about 3 to 5 percent of all children have a serious disorder (Brandenburg, Friedman, & Silver, 1990;

Costello, Burns, Angold, & Leaf, in press). Calls for the development of comprehensive, community-based systems of care for youngsters with mental health disorders date back to the Joint Commission on the Mental Health of Children (1969) which found that these children were typically unserved or served inappropriately in excessively restrictive settings. These findings were substantiated by numerous subsequent studies, task forces, commissions, and reports, all of which concurred that coordinated systems of care providing a range of services are required in order to serve these youngsters and their families effectively (President's Commission on Mental Health, 1978; Office of Technology Assessment, 1986; Knitzer, 1982).

Systems of care were envisioned as emphasizing comprehensive and individualized services, services provided within the least restrictive environment, full participation of families, and coordination among child-serving agencies and programs (Stroul & Friedman, 1986). Thus, the system of care concept represents more than a network of services, but rather a philosophy about the way in which services should be delivered to children and families, a philosophy built upon core values calling for service systems which are child centered, family focused, community based, and culturally competent as shown on Exhibit 1. Additionally, the system of care concept goes beyond the concept of a "continuum of services" to include the mechanisms, structures, and processes needed to ensure that services are provided in a coordinated, cohesive manner such as interagency entities for system-level coordination, interagency case review processes, and provisions for case management.

Despite calls for such systems of care, until recently, there were few, if any, examples of local systems of care which combine an array of community-based services with other essential elements including interagency collaboration and case management. During the past decade, a number of federal, state, local, and foundation-sponsored activities have coalesced and resulted in significant progress toward the development of systems of care in many communities across the nation, particularly for youngsters with the most serious disorders. In 1984, the National Institute of Mental Health (NIMH) launched the Child and Adolescent Service System Program (CASSP) which has provided grants and technical assistance to states and communities to assist them in developing community-based systems of care for this population (Day & Roberts, 1991). A number of states have assumed leadership in developing such systems on a demonstration or statewide basis. Further, system building has been advanced significantly by initiatives such as the Robert Wood Johnson Foundation Mental Health Services Program for Youth which has provided funds for the development of systems of care in selected local areas. As a result, many communities now have evolving systems of care which can be described and studied (Stroul et al., 1992).

There currently is widespread consensus that community-based systems of care represent the state of the art in caring for children with serious emotional disorders, and the development of such systems has become a national goal. This growing commitment to the system of care concept and philosophy make it imperative that current experience with systems of care be documented and reported. Accordingly, information was gathered from a sample of approximately 30 communities in which direct investments have been made to create systems of care with a range of community-based services, mechanisms for system-level interagency coordination, and mechanisms for client-level service coordination (such as case management).

EXHIBIT 1

SYSTEM OF CARE VALUES AND PRINCIPLES

CORE VALUES FOR THE SYSTEM OF CARE

1. The system of care should be child centered and family focused, with the needs of the child and family dictating the types and mix of services provided.

2. The system of care should be community based, with the locus of services as well as management and decision-making responsibility resting at the community level.

GUIDING PRINCIPLES FOR THE SYSTEM OF CARE

1. Children with emotional disturbances should have access to a comprehensive array of services that address the child's physical, emotional, social, and educational needs.

2. Children with emotional disturbances should receive individualized services in accordance with the unique needs and potentials of each child and guided by an individualized service plan.

3. Children with emotional disturbances should receive services within the least restrictive, most normative environment that is clinically appropriate.

4. The families and surrogate families of children with emotional disturbances should be full participants in all aspects of the planning and delivery of services.

5. Children with emotional disturbances should receive services that are integrated, with linkages between child-caring agencies and programs and mechanisms for planning, developing and coordinating services.

6. Children with emotional disturbances should be provided with case management or similar mechanisms to ensure that multiple services are delivered in a coordinated and therapeutic manner and that they can move through the system of services in accordance with their changing needs.

7. Early identification and intervention for children with emotional problems should be promoted by the system of care in order to enhance the likelihood of positive outcomes.

8. Children with emotional disturbances should be ensured smooth transitions to the adult service system as they reach maturity.

9. The rights of children with emotional disturbances should be protected, and effective advocacy efforts for children and youth with emotional disturbances should be promoted.

10. Children with emotional disturbances should receive culturally competent services which are sensitive and responsive to cultural differences and special needs and are provided without regard to race, religion, national origin, sex, physical disability, or other characteristics.

Source: Stroul, B. & Friedman, R. (1986). A System of Care for Severely Emotionally Disturbed Children & Youth. Washington, DC: CASSP Technical Assistance Center, Georgetown University Child Development Center.

II. MAJOR GOALS OF SYSTEM DEVELOPMENT

System development initiatives are guided by broad goals which define the nature and purposes of the desired systems of care. While specific goals vary from site to site, there is remarkable commonality across communities with respect to the major goals of system development:

- **To develop and provide a full array of community-based services for children with serious emotional disturbances and their families** - Each of the communities has sought to develop a broad continuum of community-based services for youngsters and families moving well beyond the traditional outpatient and inpatient services found in most areas. The communities have developed a broad range of service capacities, including intensive nonresidential as well as residential components, allowing them to provide more appropriate services and to achieve better outcomes for children and their families.

- **To reduce reliance on restrictive treatment environments and out-of-home placements** - A principal aim of all the communities is to provide services within the least restrictive environment and to reduce the historical pattern of overutilization of restrictive and expensive inpatient and residential treatment settings for the treatment of youngsters with emotional disorders. These communities have attempted to create an array of intensive community-based service alternatives which allow them to divert many youngsters from restrictive levels of care and serve them within their homes and communities. Thus, reducing utilization of restrictive treatment settings and reducing unnecessary out-of-home care have been common purposes across communities.

- **To increase interagency coordination and collaboration in planning, developing, and delivering services** - A fundamental aspect of these system development initiatives is the emphasis on interagency collaboration in all aspects of the planning and delivery of services in order to reduce the fragmentation that has characterized service delivery to children and families. These communities have brought together the agencies and systems which share responsibility for serving children with emotional disturbances for purposes including joint planning and service development, joint financing of services, system-level coordination and problem solving, and interagency treatment planning for individual youngsters.

- **To provide flexible, individualized services which are tailored to the unique needs of each child and family** - The communities have attempted to develop systems of care which are capable of providing individualized services. Individualized care has been defined as both a philosophy and a process by which services are delivered to youngsters and their families based upon their specific needs and are "customized" in accordance with an individualized service plan. Flexible funding, interagency service planning teams, "wraparound services," and case management are integral aspects of this approach. The communities have successfully used this approach for youngsters with the most severe disorders and have creatively designed services and supports (including many nontraditional approaches such as behavioral aides) to help them to remain within the community.

- **To contain costs and demonstrate the cost-effectiveness of systems of care for children and adolescents with emotional disturbances** - A central goal of system development has been to create organized systems of care which will contain or reduce the costs associated with caring for youngsters with emotional disorders and their families. The communities have attempted to demonstrate that a full continuum of services can be provided at the same or less cost than traditional service delivery approaches and that, even with expanded access to care, costs can be contained. Some communities have attempted to document the substantial cost avoidance that can be achieved by investing in systems of care -- cost avoidance within the mental health system as well as within the child welfare, education, and juvenile justice systems.

III. TARGET POPULATION

Most communities have targeted their systems of care to the children and adolescents considered "most in need" of services. Their target population definitions typically consist of criteria including diagnosis, duration, functional impairments, and multiagency need. For example, eligibility for services provided through Kentucky Impact requires a psychiatric diagnosis; severe functional limitations in at least two areas including self-care, interpersonal relationships, family life, self-direction, and education; disability for at least one year or high risk of continuing the disability for one year without intervention; and the need for service planning and coordination from two or more agencies.

Beyond such criteria, many communities have established priorities for service delivery based upon risk status. In these areas, system of care services are targeted specifically to youngsters at high risk of out-of-home placements or those already in placements such as psychiatric hospitals or residential treatment facilities. In three California counties which have been funded by the state legislature to develop systems of care based upon the Ventura model (AB377 counties), both clinical severity and risk status are used to define the target population. The Partners' Project in Oregon prioritizes youngsters whose emotional impairments put them at imminent risk of inpatient psychiatric hospitalization or long-term residential care.

An analysis of data describing the clients of the systems of care reveals more males than females in the client population, with approximately two-thirds or more males served across sites. The predominant age group across sites appears to be early to mid-adolescents. The mean client age in the Virginia Demonstrations and North Idaho is about 12.5, and the largest age categories across a number of sites is the 11 to 16 age group (Lubrecht, 1993; Virginia Dept. of Mental Health, 1992a).

With respect to diagnosis, by far the largest percentage of youngsters in most sites has a diagnosis in the disruptive disorders category (including attention deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder). In Kentucky Impact and Vermont's New Directions, about 56 to 57 percent of the children served fall within this diagnostic grouping; in the Virginia Demonstrations as many as 87 percent are diagnosed with disruptive disorders (Illback, 1993; Vermont Dept. of Mental Health, 1993; Virginia Dept. of Mental Health, 1992). Anxiety and mood disorders comprise the next largest diagnostic categories for children served, although the percentages do not approach those for

disruptive disorders. Across all sites, youngsters with psychotic disorders comprise an exceedingly small percentage of the client population, numbering about 3 to 4 percent. Multiple diagnoses are common in this population; the Family Mosaic Project in San Francisco reported that nearly half of the youngsters served have multiple diagnoses (Martinez & Smith, 1993).

The population served by these systems of care manifests a range of difficulties suggesting that it is, in fact, an extremely high-risk population. Sites reported that the majority of youngsters are behind educationally (ranging from 60 to 82 percent) and are performing below the appropriate grade level. A substantial number qualify for special education services and placements -- 41 percent in the Virginia Demonstrations and 88 percent in Wisconsin's Project FIND, for example (Virginia Dept. of Mental Health, 1992a; Wisconsin Dept. of Health & Social Services, 1992) . The majority have a history of psychiatric hospitalization. In Kentucky Impact, 60 percent of the youngsters have been hospitalized at least once in a psychiatric facility and 44 percent have exhibited behaviors considered dangerous to themselves or others (Illback, 1993).

A number of family risk factors also characterize the population served by these systems of care. A large proportion of the youngsters live in poverty (more than half in most sites), and a large proportion have divorced parents and/or live in single parent households. In the Virginia Demonstrations, as many as 68 percent live in single parent households (Virginia Dept. of Mental Health, 1992a). Many of the children are in the custody of the child welfare agency; over 70 percent of the children served by Vermont's New Directions are in the custody of the Vermont Department of Social and Rehabilitation Services (Vermont Dept. of Mental Health, 1993). Additionally, a substantial proportion of the youngsters served have a history of physical or sexual abuse, estimated at one-third by Kentucky Impact and Family Mosaic in San Francisco (Illback, 1993; Martinez & Smith, 1993). In addition, the families of many youngsters have histories of mental illness or substance abuse. In Kentucky Impact, more than one-third of the youngsters' families have histories of mental illness and more than half have histories of chemical dependence (Illback, 1993).

Based upon the multiple and complex needs of these youngsters, involvement with multiple agencies and services might be expected. In fact, the overwhelming majority of these youngsters (84 percent in the Virginia Demonstrations) have received services from more than one agency prior to involvement in the system of care (Virginia Dept. of Mental Health, 1992a). Kentucky Impact reported that 87 percent of the youngsters had received mental health services, about two-thirds had prior involvement with the child welfare and special education systems, and about one-fourth had prior involvement with the juvenile justice system (Illback, 1993). Despite this history of prior involvement, service delivery systems generally had been unsuccessful in meeting the needs of this seriously disturbed and multiproblem population.

IV. SERVICE ARRAY

In developing their systems of care, the communities have expanded existing service capacities and added new services. Each community has implemented a system offering a broad array of services, generally including some combination of the following:

Nonresidential Services

Assessment
Psychiatric Services
Outpatient Services (Individual, Family, and Group)
Home-Based Services
Day Treatment
Crisis Services
After School and Evening Programs
Therapeutic Respite Services
Behavioral Aide Services
Parent Education and Support Services
Case Management

Residential Services

Therapeutic Foster Care
Therapeutic Group Care
Crisis Residential Services
Residential Treatment Services
Inpatient Hospital Services

Some communities have developed the capacity to provide "wraparound services" which enable them to creatively construct a package of services and supports (formal and informal, traditional and nontraditional) to meet the needs of an individual child and family. In addition, some communities have added other service components such as a preschool prevention program, an alternative education program, and a therapeutic summer program.

Many of these communities collect service utilization data which reflect the range of services used by the client population and, in some cases, patterns of service utilization. For example, the Oregon Partners' Project reported that the services used most frequently from 1992 to 1993 included outpatient services (used by 70 percent of clients), respite services (40 percent), transportation (38 percent), day treatment (35 percent), recreation and recreation support (23.5 percent), education support (10.5 percent), and parent education (5.5 percent) (Oregon Partners' Project, 1993).

There are a number of important differences between the systems of care developed by these communities and traditional services systems for children with emotional disorders:

- **Expansion of "intermediate" services** - The communities have greatly expanded the availability of "intermediate" services which are more intensive than traditional outpatient services and which can often be used as alternatives to hospitalization. These services can be highly treatment-intensive, yet are offered in more normalized environments and have been shown to be effective in keeping youngsters within their homes and communities. The services which have been added to the continuum of care in these communities include home-based services, day treatment, therapeutic foster care, therapeutic group care, respite care, and others.

- **Use of individualized service approach** - The communities have adopted the philosophy of individualized care with the types, mix, and duration of services dictated by the individual needs of each child and family. Service delivery is more flexible, and many communities have developed the capacity to provide wraparound services. Some sites have flexible funds available to case managers and/or interagency service planning teams for this purpose.

- **Use of multidisciplinary teams and interagency teams** - The communities have greatly expanded the use of multidisciplinary and interagency teams. Some communities work on a two-tiered team approach, with a youth-specific team responsible for service planning and implementation and a higher-level interagency team to review more complex cases and to focus on system-level issues related to service delivery and interagency relationships. Service and treatment planning for youngsters with complex problems is often approached in these communities by the creation of a team involving representatives of the agencies involved with the child (and including the family). The team meets and works together over time to develop and implement a comprehensive, individualized service plan for the youngster and family.

- **Use of case management approaches** - The role of case managers or service coordinators includes a range of functions (planning, accessing, linking, advocating, monitoring, supporting, coordinating, brokering, educating, and others) which serve to integrate and maintain a network of services and supports for each child and family. While the approach to case management varies across communities, each site has developed the capacity to fulfill these functions and to ensure that youngsters receive the array of services in a supportive, efficient, and cost-effective manner. Some communities have developed the capacity to provide an intensive form of case management, performed by highly skilled case managers, in response to the serious and complex challenges presented by the youngsters served by their systems of care.

V. OUTCOME INDICATORS AND DATA COLLECTION APPROACH

A number of indicators have been identified to assess the impact of systems of care for children and adolescents with emotional disorders and their families. These indicators address outcomes from multiple perspectives, including those of children, families, communities, and systems. Many communities have been collecting data relative to some combination of these indicators to assess the effectiveness of their systems of care. In addition to the increasing evaluation activities in states and communities, several carefully designed studies are underway to assess the outcomes of the systems of care developed in sites such as Fort Bragg, North Carolina; three California counties funded to develop systems of care (San Mateo, Santa Cruz, and Riverside); and communities involved in the AIMS Project in Tennessee. Both evaluation efforts and more rigorous research attempts have tended to focus on the following indicators:

- Effect on out-of-home and out-of-community placements including reduction in out-of-home, out-of county, and out-of-state placements and increased stability of placements.

- Effect on utilization of restrictive service options including reduction in utilization and length of stay in inpatient and residential treatment settings and increased use of less restrictive and more appropriate placements.

- Effect on the functioning of youngsters including improved functioning on specific behaviors, symptoms, or global levels of functioning.

- Effect on the educational status of youngsters including improved school attendance, performance, and placement status.

- Effect on the law enforcement status of youngsters including reduction in violations of the law, contacts with law enforcement, and incarceration and recidivism rates.

- Effect on family involvement including increased family participation and increased parent support.

- Effect on satisfaction with services including increased satisfaction of parents, youth, and providers.

- Effect on access to services including an increased proportion of the eligible population served.

- Effect on costs including comparisons of the costs of "traditional" or restrictive services with costs of community-based services for youngsters served, shifts in allocation of resources, and costs avoided by implementing a more comprehensive community-based service array.

For this review, data related to these indicators were collected through two primary strategies. First, a survey requesting data related to the above indicators was sent to communities known to have well-developed systems of care for children with emotional disorders. The communities surveyed included the 7 communities funded by the Robert Wood Johnson Foundation to develop systems of care as well as 11 communities included in a recently completed descriptive study of local systems of care (Stroul et al., 1992). Additionally, state mental health agencies were given an opportunity to contribute data related to one or more of their local communities in which there had been direct investments in developing systems of care. Thus, several types of data sources were utilized for this synthesis including evaluation reports from system development initiatives, interim reports from research on systems of care, and direct reports from communities with well-developed systems of care. The communities contributing data to this review are displayed on Exhibit 2, and data related to the indicators are summarized by category in the following section.

EXHIBIT 2

COMMUNITIES CONTRIBUTING DATA

AB377 Counties (San Mateo, Santa Cruz, & Riverside), California
AIMS Project, Tennessee
Augusta, Georgia
Bennington County, Vermont
Children's Initiative, North Carolina
Connections, Ohio
Dubuque, Iowa
Family Mosaic Project, California
Franklin County, Ohio
Fort Bragg, North Carolina
Kentucky Impact
Lucas County, Ohio
Mountain State Network, West Virginia
New Directions, Vermont
North Idaho
Northumberland County, Pennsylvania
Stark County, Ohio
Ventura County, California
Virginia Demonstration Projects
Virginia Local Interagency Services Projects

VI. ACHIEVEMENTS

Out-of-Home and Out-of-Community Placements

A major objective of systems of care is to keep youngsters within their homes and communities to the greatest possible extent. Traditional patterns of service delivery emphasized removing a child from the family and placement in a special setting for treatment, often far removed from the child's home community and, in many cases, out of state. The communities with systems of care have emphasized the development of services and supports which maximize the likelihood of serving children within the context of their own families and communities and which reduce the necessity for out-of-home and out-of-community placements.

In fact, emerging systems of care appear to be succeeding in this area. Vermont's New Directions, for example, found a nearly 20 percent increase in children living at home from the time of referral to approximately one year following service initiation (Vermont Dept. of Mental Health, 1993). Those communities with strong home-based service components have had particular success in averting out-of-home placements; in Ventura County, California,

85 percent of the children judged to be at imminent risk of placement remained at home for at least six months (Goldman, 1992).

In addition to keeping more youngsters at home, systems of care report favorable impacts on out-of-county and out-of-state placements. Communities reported reductions ranging from 42 to as much as 73 percent in out-of-county placements and reductions in out-of-state placements ranging from 38 percent to 100 percent in Bennington County, Vermont. In the Mountain State Network of West Virginia, sites which have developed comprehensive systems of care had significantly lower rates of out-of-state placement than comparison sites (Rugs, 1992). These declines are attributed to the development of a broader array of community-based services coupled with an explicit commitment to serve these children within the community.

Another indicator related to placement considers the effect on stability of placement. Many youngsters with emotional disturbances have experienced multiple placements, and such instability is known to have deleterious effects. Data from Kentucky Impact suggest that involvement in a system of care results in a decreased number of placements for youngsters as compared with their placement histories prior to involvement. The percentage of youngsters experiencing only one placement rather than multiple placements was increased from 35.7 percent in the year prior to involvement in the system of care to 50 percent in the year following involvement (Illback, 1993). Similarly, Vermont's New Directions succeeded in reducing the percentage of youngsters experiencing three or more placement changes by 59 percent from the year prior to enrollment in services to the year following enrollment.

Utilization of Restrictive Service Options

Reducing reliance on restrictive service settings, such as hospitals and residential treatment centers, has been a goal universally shared by systems of care. In fact, a major premise of systems of care is that expanding the array of community-based services will decrease the likelihood of utilizing restrictive service options. It is within this area that the most extensive outcome information can be found. Evidence is building that systems of care do result in decreased utilization of such settings and that youngsters in communities with systems of care are less likely to be placed in inpatient and residential settings. Trends in these communities favor the use of less restrictive, more normalized service delivery approaches.

Findings from the Fort Bragg, North Carolina demonstration reveal that severely impaired children were five times more likely to be placed in an inpatient or residential setting at the comparison sites than comparably impaired children at Fort Bragg. The percentage of clients served utilizing hospital and residential treatment settings decreased from 7 percent to less than 1.5 percent over the two-year period from 1990 to 1992 (Behar, 1992b; Bickman, 1993).

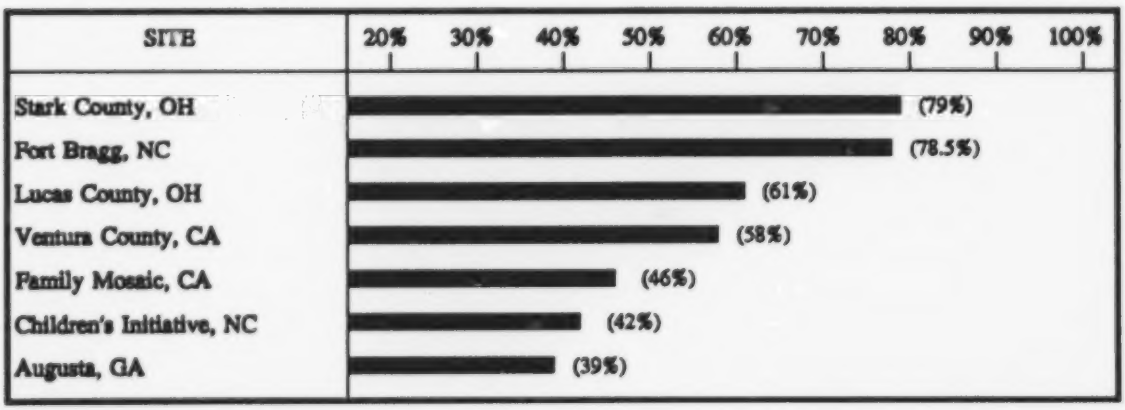
Specifically with respect to inpatient utilization, data from a wide range of communities indicate substantial reductions. In Fort Bragg, the total number of bed days (12,199) and bed days per admission (49.6) were lower than at the comparison sites which have approximately the same size population (21,488 and 57.0) and at Fort Hood which has a smaller population (46,741 and 68.0). Only 3 percent of children at Fort Bragg were hospitalized as compared with 23 percent of children at the comparison sites (Behar, 1992b). When the client

populations at Fort Bragg and the comparison sites were categorized by severity of impairment, it was found that comparison site clients had more hospital days at each level of severity (Bickman, 1993). Thus, even the youngsters with the most severe disorders spent less time in hospital settings at the Fort Bragg demonstration site than at comparison sites without systems of care.

These findings are supported by data from other sites which indicate reductions in overall hospital admission rates as well as in total bed days. Lucas County, Ohio, for example, decreased hospital admissions by 46 percent and total inpatient days by 61 percent from 1988 to 1992 (Keros, 1993). The Children's Initiative in North Carolina succeeded in reducing inpatient days by 42 percent in 1992 at a time when inpatient utilization had been increasing statewide (Behar, 1992a).

TABLE 1

PERCENT REDUCTION IN HOSPITAL ADMISSIONS



Communities have been able to achieve particular reductions in the utilization of state hospitals and reported substantial declines in both admissions and average census. Augusta, Georgia decreased state hospital admissions by 39 percent, and Stark County, Ohio and Ventura County, California reduced their average census by 79 percent and 58 percent respectively (Georgia Division of Mental Health, 1992; Goldman, 1992; Stroul; 1992). The three AB377 system of care counties in California experienced lower state hospital utilization and expenditures than for the state as a whole (Rosenblatt & Attkisson, 1992; Rosenblatt, Attkisson, & Mills, 1992).

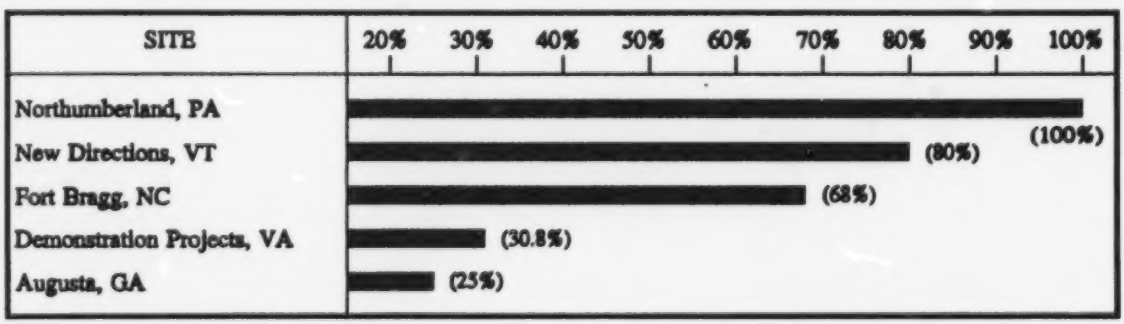
In addition, two sites reported large reductions in Medicaid expenditures for psychiatric hospitalization, one-third in Kentucky Impact and more than one-half in Northumberland County, Pennsylvania (Illback, 1993; Lourie, 1992). Length of stay in inpatient settings also declined in many of these communities. Reported reductions in average lengths of hospital stay range from 24 to 56 percent.

Similar findings were reported with respect to residential treatment centers (RTCs), with communities achieving substantial reductions in the number of youngsters in such placements. Fort Bragg decreased the number of children receiving RTC services by 68 percent from 1991 to 1992 (Behar, 1992b). Additionally, children at Fort Bragg spent an average of 40 total days in RTCs as contrasted with an average of 130 days at the comparison sites in the demonstration's first year of operation (Bickman, 1993). Similarly, Vermont's New Directions decreased the percentage of youngsters in RTCs from 45 percent at referral to 9 percent at a 1993 update (Vermont Dept. of Mental Health, 1993).

Experience in California provides additional evidence -- in Ventura County and the three AB377 counties, group home (i.e., RTC) placement rates per 10,000 were significantly lower than for the state as a whole. Evaluators found that foster home and state hospital utilization placements and expenditures were lower for the AB377 counties than for the state as a whole and that special education placements were either comparable to the state rate or lower. Thus, these reductions in RTC placement were not achieved by shifting youngsters to other types of residential settings. Cumulative evidence in these counties led evaluators to conclude that they are utilizing restrictive levels of care at a lower rate than would be expected based upon statewide utilization patterns (Rosenblatt, Attkisson, & Fernandez, 1992; Rosenblatt & Attkisson, 1992; Rosenblatt, Attkisson, & Mills, 1992).

TABLE 2

PERCENT REDUCTION IN RESIDENTIAL TREATMENT CENTER ADMISSIONS



In addition to reducing the placement rate in RTCs, some sites have reduced length of stay in these settings by working closely with the centers and by offering services and supports which enable youngsters to return to the community. Fort Bragg, for example, has reduced the average length of stay in RTCs by 38 percent from 105.1 days in 1991 to 68.5 days in 1992 (Behar, 1992b).

Evidence also is emerging to suggest that systems of care result in more appropriate placements. The Tennessee AIMS Project found that children in pilot areas were in significantly more appropriate and less restrictive placements at the end of a six-month period than children in control areas, with only 9 percent of the children in pilot areas in the most restrictive placements as compared with 17 percent in the control areas. In the pilot areas, restrictiveness of placement was more directly related to the child's level of psychosocial functioning than in the control areas, suggesting a better fit between the problem level of the child and the restrictiveness of the placement (Glisson, 1992).

Functional Improvements

While other achievements of systems of care are important, the ultimate goal of such systems is to benefit the children served and to assist them in achieving meaningful improvements in their clinical status and levels of functioning. Therefore, it has been a priority for most communities to gather some type of evaluative information on functioning with respect to specific behaviors, symptoms, or global functioning measures. Many sites have found noteworthy improvements in a variety of areas.

Kentucky Impact, for example, used the Child Behavior Check List (CBCL) to assess behavior at intake and at a one-year follow-up (Achenbach & Edelbrock, 1983). Improvements were noted with respect to both internalizing problem behaviors (such as withdrawal, somatic complaints, anxiety, and depression) and externalizing problem behaviors (such as aggression and acting out) (Illback, 1993). Also based upon administration of the CBCL, Tennessee's AIMS Project found improved functioning for children involved in services for one year. Further, for children entering with higher levels of disturbance, more progress was made in the pilot areas than in the control sites (Glisson, 1992). North Idaho found improvements on the CBCL for 44 youngsters from the pretest to three subsequent intervals (Lubrecht, 1993). The Children's Initiative in North Carolina administered the North Carolina Functional Assessment Scale at intake and at one year following service initiation and found that 38% of the children demonstrated moderate improvement and 18% showed substantial improvement in their global change scores (Behar, 1992a).

Ratings of various aspects of functioning have also been used by communities to assess progress in this area. Kentucky Impact found that ratings by parents, teachers, and children consistently indicated improvements in functioning from intake to one year following service initiation on domains including self-control, emotional adjustment, family relationships, peer relationships, and school adjustment (Illback, 1993). Connections in Cleveland, Ohio used progress ratings to assess improvements relative to specific presenting problems. High levels of improvement have been documented in areas including decreases in alcohol or drug use, child abuse, suicidal thoughts and gestures, depressed mood, delusional behavior, hallucinatory behavior, truancy, and others (Hanna-Williams, 1993). Still other sites, such as Vermont's New Directions, have tracked negative behaviors and found reduced frequency

of behaviors including physical aggression, property damage, running away, sexual assault, and self-injury (Vermont Dept. of Mental Health, 1993b).

Educational Status

An explicit goal of many communities is to improve the educational status of youngsters with emotional disturbances since they typically experience problems with school attendance and achievement. Some communities have demonstrated improvements in educational status as a result of involvement in their systems of care. For example, the Family Mosaic Project in San Francisco found sizable increases in school attendance based on a comparison of the year prior to and the year following enrollment (Martinez & Smith, 1993). Virginia's Local Interagency Service Projects also found an increased percentage of children attending school from the time of admission to the time of discharge as well as reduced suspensions, expulsions, and dropout rates (Virginia Dept. of Mental Health, 1992a). Evidence of improved school performance is provided by Ventura County, California where youth involved in the specialized Phoenix School program (as well as receiving other services through the system of care) gained an average of 1.6 academic years after one year in the program (Goldman, 1992).

Law Enforcement Status

An important measure of the success of systems of care from both the child's and the community's perspective is the effect on youngsters' involvement with the juvenile justice system. Some communities have collected data in this area which suggest positive effects on law enforcement status. In the Mountain State Network in West Virginia, youngsters in system of care sites (Model A) had fewer contacts with the juvenile justice system than those in comparison sites (Rugs, 1992). Ventura County, California, the Family Mosaic Project in San Francisco, and the North Carolina Children's Initiative reported reduced incarceration and recidivism rates for youngsters served by their systems of care. For children with detention histories, the average number of days of detention was reduced by 40 percent from a period prior to involvement in Family Mosaic to a period post-involvement (Martinez & Smith, 1993). In Ventura County, the total number days of incarceration for offenders participating in the project was reduced by 30 percent, and the reincarceration rate for participating offenders was reduced by 56 percent (Goldman, 1992). For the seven county area served by the North Carolina Children's Initiative, the average number of days spent by youngsters in secure detention was decreased by 30% and the total number of days of secure detention was decreased by 23% from 1989-90 to 1991-92.

Family Involvement

Although increasing family involvement and support are primary objectives of the majority of the systems of care, few systematically collect data to assess progress in this area. One exception is Kentucky Impact, which has gathered data regarding parents' perceptions of the support received from various providers. Based upon an Inventory of Social Support administered at intake, six months, and one year following service initiation, increases were found in the amount of perceived support from providers including service coordinators, respite providers, crisis counselors, recreation workers, in-home workers, and "total support" (Illback, 1993).

Satisfaction with Services

Consumer satisfaction with services is an important indicator of success, and several sites have mechanisms in place to assess parent satisfaction with services and, in one community, youth satisfaction. The data suggest that parents are indeed satisfied with services provided by the systems of care. In Fort Bragg, parents were significantly more satisfied with the services they received than parents at comparison sites, and they reported a higher level of confidence that the services children were receiving would ameliorate the problems they were experiencing (Behar, 1992b). Kentucky Impact found increased parent satisfaction at intervals of six months and one year following service initiation (Illback, 1993). Services in other communities (such as the Virginia Demonstration Project communities, North Idaho, and the area served by the North Carolina Children's Initiative) received consistently high parent satisfaction ratings.

Youth satisfaction was measured by New Directions in Vermont where youngsters receiving services rated overall satisfaction an average of 4.17 on a 5-point scale, with 5 being "extremely satisfied" (Burchard et al., 1993). Virginia's Demonstration Projects measured provider satisfaction and found that more than two-thirds of the providers in the demonstration communities were extremely satisfied with the impact of the system of care on their communities (Virginia Dept. of Mental Health, 1992a). Similarly, a survey of providers from the range of child-serving agencies and systems in the area served by the North Carolina Children's Initiative revealed that 61 percent of the providers were very satisfied with the services their clients were receiving and 39 percent were moderately satisfied; no providers expressed dissatisfaction.

Access to Services

There is some evidence that the development of systems of care has resulted in improved access to services by youngsters with emotional disorders. In Fort Bragg, for example, twice as many youngsters were served as compared with the comparison sites, 6 percent of the eligible population versus 3 percent at the comparison sites (Behar, 1992b). The AIMS Project in Tennessee also significantly increased the proportion of children in the pilot areas receiving mental health services (Glisson, 1992).

Cost Comparisons

One of the most important hypotheses of system development is that community-based systems of care can contain costs and provide efficient and cost-effective services. One way that communities have attempted to demonstrate this is by comparing the costs of "traditional" services with the costs of community-based services for youngsters served. Data suggest potential savings by implementing a system of care with an expanded array of community-based services. At Fort Bragg, North Carolina, the total average annual cost per client is 51 percent lower at Fort Bragg ($5380) as compared with the comparison sites ($10,922) where systems of care do not exist (Behar, 1992). (These costs are the average for all youngsters with mental health needs rather than for a discrete population of youngsters with serious disorders.)

A number of other communities have documented lower costs with an array of community-based services than with more traditional services. They have approached this by comparing costs for the year prior to involvement in the system of care with the year following involvement or by comparing system of care costs with average costs for more a more traditional mix of services, typically relying more heavily upon institutional environments. Kentucky Impact, using the former approach, found costs reduced by approximately $4 million in comparing the first year of services under Kentucky Impact with the prior year; in Franklin County, Ohio 10 percent less was expended in a six-month period through the system of care than in the six months prior to involvement (Illback, 1993; McCoard, 1993). When comparing average costs for traditional versus system of care service delivery configurations, Vermont's New Directions found that the average costs for 10 youngsters in out-of-state placements exceeded the average cost for 19 youngsters receiving individualized services in state for the same time period (Vermont Dept. of Mental Health, 1993).

While cost reductions are reported consistently across sites, the reported average costs per client vary widely. These variations appear to be a function primarily of the nature of the population served by the system of care. Some systems serve only youngsters with the most severe and complex needs resulting in relatively high per-client costs. Others may serve a more mixed population, such as Fort Bragg which serves all youngsters with mental health needs, resulting in lower average costs. Variations also result from differences in computing the costs of services.

Increasing evidence indicates that systems of care may not only contain costs but may result in shifts in the allocation of resources to the nonresidential service approaches utilized by the vast majority of service recipients. Such shifts in resource allocation have occurred at Fort Bragg. At the comparison sites, 95 percent of the resources are spent on hospital and residential care (which are utilized by a small minority of children), whereas at Fort Bragg, only 47 percent of the resources are currently spent on hospital and residential care (Behar, 1992b). These changing patterns of resource allocation increase the likelihood that a greater proportion of youngsters in need will benefit from scarce mental health resources.

Additional evidence of the long-range fiscal benefits of systems of care is found in estimates of costs avoided by implementing more comprehensive community-based services. California provides convincing evidence to this effect. For example, the three AB377 system of care counties have saved over $35 million in costs for group home residential care from 1989 to 1992 when compared with trends for the state. It has been estimated that the state of California could have saved a total of approximately $50 million in residential costs if the State had followed the trend of the AB377 counties instead of the actual trend in the state for the same time period (Rosenblatt, Attkisson, & Fernandez, 1992; Rosenblatt & Attkisson, 1992; Rosenblatt, Attkisson, & Mills, 1992). Similarly, Ventura County, California has documented cost avoidance not only within the mental health system, but savings accrued by reducing youngsters' involvement in the child welfare, juvenile justice, and special education systems as well, primarily by reducing placement rates and lengths of stay (Goldman, 1992).

VII. DISCUSSION

Advocates for systems of care for children and adolescents with serious emotional disorders contend that such systems provide higher quality, more appropriate, and more cost-effective care. It is only through careful analysis of the outcomes of systems of care that these claims can be substantiated. Therefore, research and program evaluation activities designed to assess systems of care are critically important to shape future patterns of service delivery for this underserved and vulnerable population.

Since systems of care are fairly recent innovations, evaluation and research efforts related to them are in early stages of development. A report prepared by the Institute of Medicine (1989) documented the lack of research in the area of children's mental health and a subsequent NIMH plan called for increased investment in this area, including research on services and systems of care. As a result, research on systems of care is increasing, with additional studies supported by NIMH and the Center for Mental Health Services (CMHS).

While the need for additional research on systems of care is clear, there is increasing evidence which is emerging from a variety of sources and points toward the efficacy of the system of care approach. Some of this evidence is derived from rigorously designed studies, and other information is derived from program evaluation activities undertaken by states and communities to assess their system building initiatives. The methodology and quality of these data may be criticized in some cases, and much of the information must be considered preliminary. Nevertheless, unmistakable trends are becoming apparent with respect to the results of systems of care. Trends in data across systems of care suggest that:

- Children receiving services within systems of care appear less likely to receive services in restrictive service environments such as hospitals and residential treatment centers, and, when they are admitted to these settings, they appear likely to remain for shorter periods of time.

- Children receiving services within systems of care appear less likely to be placed out of their homes and, when they are in out-of-home placements, appear less likely to be placed in treatment settings outside of their own counties and states.

- Children receiving services within systems of care appear to demonstrate improvements in functioning including symptom reduction, reduction of negative behaviors, and improved overall functioning.

- Children receiving services within systems of care appear to demonstrate some improvements in school attendance and school performance.

- Children receiving services within systems of care appear to have fewer contacts with law enforcement, fewer episodes of incarcerations, and fewer days spent in juvenile detention facilities.

- Parents of children receiving services within systems of care appear to be more satisfied with services and with the support they receive.

- Costs of providing systems of care appear to be less than for traditional service delivery patterns which rely more heavily on expensive treatment environments, and resources in systems of care shift so that a greater proportion are spent on nonresidential services.

- Systems of care appear to result in the avoidance of costs within the mental health, child welfare, education, and juvenile justice systems by reducing the use of facilities and programs paid for by these systems.

This review of data from local systems of care leads to the conclusion that there is a growing body of evidence, from research as well as evaluation data, to support the contention that systems of care provide high quality, more appropriate, and cost-effective care. These systems of care provide an expanded array of services, going well beyond the services typically available in other communities. They use an individualized service approach and emphasize the involvement of families in all aspects of the planning and delivery of services. They have created a variety of interagency structures for system-level coordination, interagency case review, and problem resolution; case management mechanisms have been implemented to ensure coordination of service delivery at the client level. It is this combination of elements which comprise a system of care and which appear to hold great promise for improving service systems and outcomes for youngsters with severe emotional disturbances and their families.

Continuing commitments to research and evaluation are needed in order to monitor and assess the results of systems of care as they evolve throughout the nation. Attention should be directed beyond the assessment of short-time outcomes for youngsters involved in such systems of care to determining long-term results over time for youngsters and their families. Despite methodological unevenness, this review suggests that many sites are beginning to focus on similar indicators for assessing the efficacy of their systems of care. As systems of care continue to develop nationwide, attention to a common set of outcome indicators would provide a framework for more systematic studies and multisite analyses.

REFERENCES

Achenbach, T. & Edelbrock, C. (1993). Manual for the child behavior checklist and revised child behavior profile. Burlington, VT: University of Vermont, Department of Psychiatry.

Attkisson, C., Dresser, K., & Rosenblatt, A. (1992). Service systems for youth with severe emotional disorders: System of care research in California. In L. Bickman and D. Rog (Eds.), Children's mental health services: Research, policy, and innovation. Beverly Hills: Sage.

Behar, L. (1992a). The children's initiative, North Carolina mental health services program for youth. Raleigh: North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services, Child and Family Services Branch.

Behar, L. (1992b). Fort Bragg child and adolescent mental health demonstration project. Raleigh: North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services, Child and Family Services Branch.

Bickman, L. (1993). The evaluation of the fort bragg demonstration project. Nashville, TN: Vanderbilt University, Center for Mental Health Policy.

Brandenburg, N., Friedman, R., & Silver, S. (1990). The epidemiology of childhood psychiatric disorders: Prevalence findings from recent studies. Journal of the American Academy of Child and Adolescent Psychiatry, 29, 76-83.

Burchard, J., Rosen, L., Heckman, T., Gendebien, M., Pandian, N., & Stith, A. (1993). The role of youth satisfaction surveys in evaluating outcomes for children and adolescents receiving community-based, wraparound services. Paper presented at the 6th Annual Research Conference, A System of Care for Children's Mental Health: Expanding the Research Base, Tampa, FL.

Burns, B. (1993). Selected observations on the costs and effectiveness of mental health services for children and adolescents. Paper prepared for briefing on recent advantages in children's mental health research. Durham, NC: Duke University Medical Center, Division of Social and Community Psychiatry.

Costello, E., Burns, B., Angold, A., & Leaf, P. (in press). How can epidemiology improve mental health services for children and adolescents? Journal of the American Academy of Child and Adolescent Psychiatry.

Day, C. & Roberts, M. (1991). Activities of the child and adolescent service system program for improving mental health services for children and families. Journal of Clinical Child Psychology, 20 (4), 340-350.

Georgia Division of Mental Health, Mental Retardation, & Substance Abuse. (1992). A report on the August SED project.

Glisson, C. (1992). The adjudication, placement, and psychosocial functioning of children in state custody. Knoxville: University of Tennessee, College of Social Work.

Goldman, S. (1992). Ventura County, California. In B. Stroul, S. Goldman, I. Lourie, J. Katz-Leavy, & C. Zeigler-Dendy. Profiles of local systems of care for children and adolescents with severe emotional disturbances. Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Hanna-Williams, F. (1993). [Connections project data]. Unpublished raw data. Cleveland: Cuyahoga County Community Mental Health Board.

Hodges, K., Summerfelt, W.T., & Ring-Kurtz, S. (1993). Measurement of child psychopathology and level of functioning in the evaluation of a continuum of care. Paper presented at the 6th Annual Research Conference, A System of Care for Children's Mental Health: Expanding the Research Base, Tampa, FL.

Illback, R. (1993). Evaluation of the Kentucky Impact program for children and youth with severe emotional disabilities, year two. Frankfort: Division of Mental Health, Children and Youth Services Branch.

Illback, R., Neill, T.K., Call, J., & Andis, P. (in press). Description and formative evaluation of the Kentucky Impact program for children with serious emotional disturbance. Special Services in the Schools.

Institute of Medicine. (1989). Research on children and adolescents with mental, behavioral, and developmental disorders. Washington, DC: National Academy Press.

Iowa Department of Human Services. (1992). Dubuque County progress report. Dubuque: Iowa Dept. of Human Services, Dubuque Area Office.

Joint Commission on the Mental Health of Children. (1969). Crisis in child mental health. New York: Harper & Row.

Katz-Leavy, J., Lourie, I., Stroul, B., & Zeigler-Dendy, C. (1992). Individualized services in a system of care. Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Keros, J. (1993). [Lucas County, Ohio hospitalization data]. Unpublished raw data. Toledo: Lucas County Mental Health Board.

Knitzer, J. (1982). Unclaimed children. Washington, DC: Children's Defense Fund.

Lourie, I. (1992). Northumberland County, Pennsylvania. In B. Stroul, S. Goldman, I. Lourie, J. Katz-Leavy, & C. Zeigler-Dendy. Profiles of local systems of care for children and adolescents with severe emotional disturbances. Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Lubrecht, J. (1993). [North Idaho rural system of care evaluation data]. Coeur d'Alene, ID: Region I Health and Welfare, Family and Children's Services.

Martinez, M. & Smith L. (1993). The Family Mosaic project, Report submitted to the Washington Business Group on Health. San Francisco: Family Mosaic Project.

McCoard, D. (1993). 10 KIDS: An interprofessional managed care approach to returning SED youth placed out-of-county using nontraditional cross-system collaborative strategies. Paper presented at the 6th Annual Research Conference, A System of Care for Children's Mental Health: Expanding the Research Base, Tampa, FL.

Office of Technology Assessment, U.S. Congress. (1986). Children's mental health: Problems and services - A background paper. Washington DC: U.S. Government Printing Office.

Oregon Partners' Project. (1993). [Partners' Project evaluation data]. Unpublished raw data. Portland: Office of Child and Adolescent Mental Health.

President's Commission on Mental Health. (1978). Report of the sub-task panel on infants, children, and adolescents. Washington, DC: U.S. Government Printing Office.

Rosenblatt, A. & Attkisson, C. (1992). Integrating systems of care in California for youth with severe emotional disturbance. I. A descriptive overview of the California AB377 evaluation project. Journal of Child and Family Studies, 1(1), 93-113.

Rosenblatt, A., Attkisson, C., & Fernandez, A. (1992). Integrating systems of care in California for youth with severe emotional disturbance. II. Initial group home expenditure and utilization finding from the California AB377 evaluation project. Journal of Child and Family Studies, 1(3), 263-286.

Rosenblatt, A. & Attkisson, C. (1992). Integrating systems of care in California for youth with severe emotional disturbance. III. Answers that lead to questions about out-of-home placements and the California AB377 evaluation project. Journal of Child and Family Studies, 2(2), 119-141.

Rosenblatt, A., Attkisson, C., & Mills, N. (1992). The California AB377 evaluation, three year summary report. San Francisco: The University of California.

Rugs, D. (1992). Mountain state network project. Unpublished report. Tampa: Florida Mental Health Institute, Department of Child and Family Studies.

Stroul, B. (1992). Stark County, Ohio. In B. Stroul, S. Goldman, I. Lourie, J. Katz-Leavy, & C. Zeigler-Dendy. Profiles of local systems of care for children and adolescents with severe emotional disturbances. Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Stroul, B. & Friedman, R. (1986). A system of care for severely emotionally disturbed children and youth. Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Stroul, B., Goldman, S., Lourie, I., Katz-Leavy, J., & Zeigler-Dendy, C. (1992). Profiles of local systems of care for children and adolescents with severe emotional disturbances. Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Vermont Department of Mental Health & Mental Retardation. (1993). Vermont new directions evaluation of children and adolescent services. Waterbury, VT: Division of Mental Health.

Virginia Department. of Mental Health, Mental Retardation, & Substance Abuse Services (1992a). Demonstration project interim evaluation results. Richmond, VA: Office of Research and Evaluation.

Virginia Department of Mental Health, Mental Retardation, & Substance Abuse Services (1992b). Local interagency service projects initiative. Richmond, VA: Office of Research and Evaluation.

Wisconsin Department. of Health & Social Services. (1992). Project FIND. Madison: State of Wisconsin.

APPENDIX: OUTCOMES OF COMMUNITY-BASED SYSTEMS OF CARE

I. Out-of-Home and Out-of-Community Placements

- Reduction in out-of-home placements

New Directions, VT	Increased percentage of children living with their families from 13% at referral to 32% after approximately one year of services
	Increased percentage of youth in independent living or supervised independent living arrangements from 0 at referral to 26% after approximately one year of services
Ventura County, CA	85% of children at imminent risk of placement who received services remained at home at least six months

- Reduction in out-of-county placements

Children's Initiative, NC	Reduced out-of-county placements from 52 in 1990 to 30 in 1992 (42% decline)
Stark County, OH	Reduced out-of-county psychiatric placements from 55 in 1985 to 15 in 1991 (73% decline)
Bennington County, VT	Reduced out-of-county placements by 60% from average of 10 in 1990 to average of 4 in 1992 following implementation of system of care

- Reduction in out-of-state placements

New Directions, VT	Decreased out-of-state placements from 39 in 4/91 to 18 in 9/92 (54% decline)
Bennington County, VT	Reduced out-of-state placements from 6 in 1990 to 0 in 1992
Dubuque, IA	Reduced out-of-state placements from 13 in 1991 to 8 in 1992 (38% decline)
Mountain State Network, WV	Out-of-state placements for system of care sites (Model A) were significantly lower than for comparison sites (Models B and C)

- Increase in stability of placements

Impact, KY	Decreased the average number of placements for youngsters based upon comparison of year prior to involvement and year following entry into Impact. Increased percentage experiencing only one placement rather than multiple placements from 35.7 in the year prior to involvement to 50% in the year following involvement (14% increase)
New Directions, VT	Decreased the percentage of children experiencing three or more placement changes by 59% from the year prior to enrollment in services to the year following enrollment

II. Utilization of Restrictive Service Options

- Reduction in utilization of inpatient services

Fort Bragg, NC	Decreased percentage of total clients served utilizing hospital and residential treatment centers from 7% in 1990 to less than 1.5% in 1992
	Severely impaired children were five times more likely to be placed in an inpatient or residential setting at the comparison sites than comparably impaired children at the demonstration site
	Inpatient utilization was lower at the demonstration site than at the comparison sites. Total bed days (12,199) and bed days per admission (49.6) were lower at the demonstration site than at the comparison sites (21,448 and 57.0) which have approximately the same size population and Fort Hood which has a smaller population (46,741 and 68.0). Only 3% children at Fort Bragg were hospitalized as compared with 23% children at comparison sites
	Demonstration site experienced significantly fewer readmissions to inpatient services than the comparison sites
	Demonstration site utilized fewer hospital days for clients at each level of severity of impairment than comparison sites; clients with the most severe impairments spent fewer days in hospital settings at the demonstration site

AB377 Counties, CA	State hospital utilization and expenditures were lower for system of care counties than for state as a whole
Impact, KY	Decreased Medicaid expenditures for children in psychiatric facilities from $10.7 million to $7.2 million in 1992 (33% decline)
	Decreased inpatient hospital utilization during first year of program based on ratings of restrictiveness of living environment for children at intake, 6 months and 12 months following service initiation
Ventura County, CA	Reduced rate of state hospitalization of youth by 58% from baseline period 1978 - 1980 (average census of 14) to 1992 (average census of 5.9)
	Reduced average patient days per year from 3,382 in baseline period 1978 - 1980 to 1,878 in 1991 (44% decline)
Children's Initiative, NC	Decreased number of inpatient days by 42% in 1992 while inpatient days increased 26% statewide from 1989 to 1991
Demonstration Projects, VA	Decreased state hospital admissions from two of the demonstration sites
Family Mosaic, CA	Decreased number of hospital admissions by 46% from year prior to year following enrollment in Family Mosaic for children with histories of hospitalization
Stark County, OH	Reduced utilization of state hospital from average census of 7 in 1989 to 1.5 in 1992 (79% decline)
Northumberland, PA	Decreased Medicaid expenditures for children in psychiatric hospitals in rural county from a high of $148,000 in 1986-87 to $65,000 in 1990-91 (56% decline)
Augusta, GA	Decreased admissions of children to state hospital by 39% from 257 in 1989 to 156 in 1992 and decreased average daily census from 16.43 to 12.52 over same period (24% decline)
Lucas County, OH	Decreased hospital admissions by 46% and decreased patient days by 61% from 1988 to 1992

- Reduction of length of stay in inpatient settings

Fort Bragg, NC	Decreased average length of stay from 36.4 days in 1991 to 27.6 days in 1992 (24% decline)
Impact, KY	Decreased average length of stay from 44 days in 1990 to 30.5 days in 1992 (31% decline)
Ventura County, CA	Decreased average length of stay in state hospital from 14.3 months in 1986 to 6.3 months in 1991 (56% decline)
Demonstration Projects, VA	Decreased expenditures for state hospital care for youth from demonstration sites (14.9% decrease) compared to a 10% increase for the rest of the state during the same time period. Decrease attributed to briefer lengths of stay for youth from demonstration sites.

- Reduction in utilization of residential treatment center services

Fort Bragg, NC	Decreased number of children receiving RTC services from average daily census of 15.7 in 1991 to 5.1 in 1992 (68% decline) Clients at the demonstration site spent an average of 40 total days in RTCs as compared with an average of 130 days at the comparison sites during fiscal year 1991
AB377 Counties, CA	Group home placement rate per 10,000 for the three AB377 system of care counties was significantly lower (9.87) than the rate for the state as a whole (18.9)
New Directions, VT	Decreased percentage of youngsters in residential treatment centers from 45% at referral to 9% after approximately one year of services and increased use of therapeutic foster care (9% to 19%)
Ventura, CA	Group home placement rate for wards per 10,000 is significantly and consistently lower in Ventura County (6.0) than for state as a whole (18.9)

Demonstration Projects, VA	Decreased education-funded residential placements by 30.8% from FY 1991 to FY 1992 for all five projects combined while statewide reductions were only 17.7% for the same period
	Decreased DYFS Learning Center commitments (juvenile justice placements) in four of five demonstration sites from FY 1990 to FY 1992 as compared to a 4.1% increase in such placements in the rest of the state
	Decreased DYFS "286" (juvenile justice) residential placements by 81.8% for all projects combined
Northumberland County, PA	Decreased residential/institutional placements from 12 in 1985 to 0 in 1990 and 1991
	Decreased group home placements from 2 - 4 in 1986-86 to 0 since 1988
Augusta, GA	Decreased utilization of out-of-community residential treatment by 25% from 1989 to 1992 while other comparable areas have shown increases in such placements during same time period. 50 youngsters recommended for residential treatment center since 1989 have been diverted and served by the Augusta system of care

- Reduction in length of stay in residential treatment centers

Fort Bragg, NC	Decreased average length of stay in RTCs from 105.1 days in 1991 to 68.5 in 1992 (38% decline)

- Increased use of less restrictive and more appropriate placements

AIMS Project, TN	Children in pilot areas were in significantly less restrictive and more appropriate placements at the end of a 6-month period than children in control areas. 9% of children in pilot areas were in most restrictive placements after 6 months in custody as compared with 17% in control areas. Restrictiveness of placement was more related to the individual's level of psychosocial functioning in pilot than in control areas

III. Functional Improvements

o Improved functioning on specific behaviors or global functioning

Fort Bragg, NC

Improvements in functioning demonstrated on Child and Adolescent Functional Assessment Scale (CAFAS) and other instruments from Time 1 to Time 2

Impact, KY

Improved behavior from intake to one year follow-up for sample of 153 youngsters shown by statistically significant decrease in both internalizing problem behaviors such as withdrawal, somatic complaints, anxiety, and depression (71.18 to 65.14) and externalizing problem behaviors such as aggression and acting out (74.34 to 71.49) on the CBCL as perceived by parents

Improved functioning in a number of domains based upon ratings by parents and teachers at one year following service initiation:

	Parents	Teacher	Child
Self-control	71%	62%	80%
Emotional adjustment	69%	56%	70%
Family relationships			71%
Peer relationships		55%	67%
School adjustment	64%	59%	73%
School achievement	68%	59%	68%

New Directions, VT

Improved functioning of children and adolescents receiving individualized services based upon comparisons of behavior from referral to approximately one year following service initiation. Reduced frequency of severe negative behaviors including physical aggression, property damage, runaway, sexual assault, self-injury

Children's Initiative, NC

Improved functioning demonstrated for 127 children based upon the North Carolina Functional Assessment Scale from intake to one year following service initiation. 36% demonstrated moderate improvement in their global change score; 18% demonstrated greater improvement.

AIMS Project, TN

Improvements in functioning demonstrated for children remaining in custody after one year on both the CBCL and the TRF. For children who entered custody with higher levels of disturbance, more progress was made in the pilot areas than in the control areas

Local Interagency Service Projects, VA

Improved functioning of youngsters from admission to discharge based upon average increases in global functioning scores (GAF). In four separate reporting periods (1990 - 1991), average GAF scores increased by 3.6, 3.0, 5.4, and 7.6 points from admission to discharge

Connections, OH

Improved functioning in approximately 60 areas shown by progress ratings for 150 youth. Percent improved based on number of youngsters with specific presenting problems including:

	# With Problem	% Improved
Passing grades	82	69.5%
No evidence of alcohol/drug use	17	64.7%
No instance of child abuse	32	81.3%
Decrease in suicidal thoughts	24	83.3%
Decrease in suicidal gestures	22	81.8%
Decrease in truant school days	47	63.8%
Decreased depressed mood	86	61.6%
Decreased self-derogatory remarks	97	63.9%
Decreased delusional behavior	7	57.1%
Decreased hallucinatory behavior	12	66.7%
Decreased defiant behavior	102	57.8%
No assaults reported	70	48.6%
Decreased truancy	46	63.8%

Bennington County, VT

Improvements in self-confidence, compliance, and positive peer interaction and decreased verbal abuse, aggression, and other acting out behavior as measured by Daily Indicators Checklist

North Idaho

Significant improvements for 44 children on CBCL (behavioral problems and social competencies dimensions) from pretest to three subsequent intervals

IV. Educational Status

- Improved school attendance

Ventura County, CA	Significant gains in school attendance of youth treated at Phoenix School with students present approximately 90% of possible school days
Local Interagency Services Projects, VA	Increased percent of children attending school from time of admission to discharge and reduced suspensions, expulsions and dropping out
Family Mosaic, CA	Increased percent of children with fair, good, or excellent attendance records from 60.3% to 73.4% (13% increase) and decreased percent with poor attendance records or not attending from 39.7% to 26.6%

- Improved school performance

Ventura County, CA	Significant gains in school performance for youth treated at Phoenix School with students gaining an average of 1.6 academic years after one year in the program (242% increase in rate of academic progress over previous year)
Family Mosaic, CA	Increased percent of children judged to have fair, good, or excellent school performance from 50.9% to 70.3% (19% increase) and decreased percent judged to have poor performance or not attending from 49.1% to 29.7%

- Improved school placement status

New Directions, VT	Increased fully mainstreamed children by 10% and mainstreamed with support by 7%. Decreased children in separate school settings by 16% and children in separate class settings by 16% from intake to 3/93 update

V. Law Enforcement Status

- Reduction in contacts with law enforcement

Mountain State Network, WV	Reduced average number of contacts with juvenile justice system. Lower average number of contacts in system of care "Model A" sites (2) than in comparison sites (6)

- Reduction in incarceration and recidivism rates for juvenile offenders

Ventura County, CA	Reduced reincarceration rate of juvenile offenders participating in the Ventura Demonstration Project by 56% Reduced total days of incarceration of offenders served by 30%
Family Mosaic, CA	Reduced average days of detention for children with detention histories from 45.7 in the year prior to involvement with Family Mosaic to 27.5 in the year post-involvement (40% decline) Reduced total detention days from 1308 in the year prior to involvement to 1056 in the year post-involvement (19% decline)
Children's Initiative, NC	Reduced average number of days spent in secure detention by 30% and reduced the total days of secure detention by 23% from 1989-90 to 1991-92 for the seven county area served by the project.

VI. Family Involvement

- Increased parent participation

Family Mosaic, CA	Over 90% of parents and/or family member-guardians attended comprehensive plan of care meeting for their children

o Increased parent support

Impact, KY	Increased parents' perception of amount of support from providers including service coordinators, respite providers, crisis counselors, recreation workers, in-home workers, and total support based upon Inventory of Social Support administered at intake, 6 months, and 12 months

VII. Satisfaction with Services

o Increased parent satisfaction with services

Fort Bragg, NC	Parents at demonstration site were significantly more satisfied with services they received (93%) than parents at comparison sites (78%) Parents at demonstration site reported a higher level of confidence that services children were receiving would ameliorate problems they were experiencing (85%) than parents at comparison sites (74%)
Impact, KY	Increased parent satisfaction with support received from providers based upon Family Support Satisfaction Scale administered at intake, 6 months, and 12 months
Children's Initiative, NC	Parents at the demonstration site reported that they were very satisfied with the services they received (74%) or moderately satisfied (26%); none claimed to be dissatisfied
Demonstration Projects, VA	Parents at demonstration sites reported the quality of services received as either excellent or good (84%), that all or most of their needs had been met (75%), that they were very or mostly satisfied with the help received (76%), that they were very or mostly satisfied with their child's progress since services began (72%), and that services helped their family to deal more effectively with their problems (84%)
North Idaho	Parent satisfaction ratings were in the range of "good" to "very good" for all services. Overall rating for the community-based treatment system was an average of 3.2 on a 4-point scale

- Increased provider satisfaction with services

Children's Initiative, NC	Providers from the various child-serving agencies at the demonstration site reported that they were very satisfied with the services their clients were receiving (61%) or moderately satisfied (39%); none claimed to be dissatisfied
Demonstration Projects, VA	Providers at demonstration sites were extremely (68%) or somewhat (6%) satisfied with the impact of the demonstration project on their communities

- Increased youth satisfaction with services

New Directions, VT	Youngsters receiving services rated overall satisfaction an average of 4.17 on a 5-point scale, with 5 being "extremely satisfied"

VIII. Access to Services

- Increased proportion of eligible population served

Fort Bragg, NC	Served over twice as many youngsters at demonstration site (6% of eligible population) than at comparison sites (3% of eligible population). Decreased waiting time for services from 5 months prior to demonstration to 1 week.
AIMS Project, TN	Significantly increased proportion of children in the pilot areas receiving mental health services

IX. Cost Comparisons

- Comparisons of the costs of "traditional" or restrictive services with costs of new services in system of care for youngsters served

Fort Bragg, NC	Average cost per client is approximately $5380 at Fort Bragg as compared with $10,922 at comparison sites (51% lower) [Average cost is for all clients with mental health needs, not just seriously disturbed population]
Impact, KY	Less costly to serve youngsters with an array of community-based services. Estimated costs of child services were $9.5 million during the first year of services under Kentucky Impact as compared with $13.5 million for the prior year
	Estimated cost per child for first year of involvement in Impact at $15,244 and the cost per child for services in the year prior to involvement at $19,539 yielding a reduction of about $4,300 per child
New Directions, VT	Less costly to serve children enrolled in in-state individualized services than children in out-of-state placements. Average cost per child was $57,218 for 10 youngsters in out-of-state placements for approximately 9 months as compared with $43,025 for 19 youngsters receiving individualized services in state for at least 9 months in 1992 [Includes educational costs]
Franklin County, OH	Costs contained for 10 children receiving individualized services. 10% less was expended in 6-month period of individualized services than in 6 months prior to involvement

- Shift in allocation of resources

Fort Bragg, NC	Major shift of resources at Fort Bragg so that a greater proportion of the resources are spent on the nonresidential services provided to the majority of children. At the comparison sites, 95% of the resources are spent on hospital and residential care, while at Fort Bragg only 47% of the resources are spent on hospital and residential care

- Costs avoided by implementing a more comprehensive community-based service array

AB377 Counties, CA

Three system of care counties have saved over $35 million in costs for group home residential care from 1989 to 1992 when compared with trends for the state

Estimated that the State of California could have saved a total of approximately $520 million in group home costs if the state had followed the trend of the AB377 counties instead of the actual trend in the state from 1989 to 1992. (Investment in system of care counties ranged from $.5 to $1.7 million per county per year.)

Ventura County, CA

Costs avoided by reducing youngsters' involvement in the child welfare, criminal justice, or psychiatric hospital systems during the period of the demonstration (1985 - 1988)

	Costs Avoided
Group home costs paid by AFDC - Foster Care	$1,247,000
Child and adolescent state hospital programs	$1,232,571
Group home costs paid by special education	$234,390
Juvenile justice reincarcerations	$160,020

Family Mosaic, CA

Costs avoided by reducing number of days of detention for client population by 252 total days estimated at $50,178 for one year

Costs avoided by reducing number of days of psychiatric hospitalization estimated at $102,000 to $187,000 for one year

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